

## ABSTRACT

Disclosed are adhesive coating compositions containing a metal peroxide for producing clear colorless adhesive coatings on substrates, particularly micro particulate substrates. In one preferred embodiment the nanoparticle coatings are chemically active and function at a high level of efficiency due to the high total surface area of the micro particulate substrate. Also disclosed are coated substrates and compositions having nanoparticles bound to a substrate by the coating compositions.